

The Role of Missile Defense in Nuclear Deterrence

After being largely ignored for that past two decades, nuclear weapons are once again at the forefront of U.S policy making. The recent negotiations for a Strategic Arms Reduction Treaty follow on and political rhetoric calling for the United States to lead the way in eliminating nuclear weapons from the world have spurred much political and academic debate on the role of nuclear weapons and nuclear deterrence in the security environment of today and the future. Recent attention has also been paid to the U.S. Ballistic Missile Defense system with critics calling for an all-out cancellation of the program and the Obama administration altering plans for deploying a missile defense system in eastern Europe. Missile defense advocates argue that such reductions increase the risk to the United States and its allies posed by rogue nations in possession of nuclear weapons and would take away a key component of future U.S. nuclear deterrence. This paper will examine the history of nuclear deterrence and missile defense; the role missile defense systems play in nuclear deterrence, and provide recommendations as to the future of missile defense.

A Brief History of Nuclear Deterrence and Missile Defense

In the 1950's, RAND physicist Herman Kahn strongly argued that to be effective, above all else, United States deterrence policy must be credible. As he saw it, the main threat to this credibility was the United States' policy of extending its nuclear deterrence, against the Soviet Union, to include attacks against its NATO allies. Since the Soviet Union would certainly respond in kind to any nuclear attack by the United States, Kahn believed that "extended nuclear deterrence based on a threat that would be suicidal if executed could be viewed as an incredible bluff, and could consequently invite challenges."¹ To be credible, therefore, he argued that the United States "must have the capability to survive the process of nuclear escalation and the likely Soviet nuclear reply."² Kahn believed this credibility would be gained in two ways. First would

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be through a robust offensive capability, capable of large-scale destruction of Soviet civil society and military forces. The second, and most important, was through a highly capable air and ballistic missile defense system, capable of dramatically limiting the effectiveness of a Soviet attack on the United States. Kahn believed that possessing the ability to negate a Soviet nuclear attack would cause Soviet leadership to believe that U.S. leadership could deliberately choose to escalate to nuclear conflict because the United States could survive. Therefore, with little to lose, the United States deterrent capability would be credible and strong.

At the same time Kahn was developing his theory on deterrence, Thomas Schelling was developing a decidedly different theory. Unlike Kahn, Schelling vehemently opposed defensive systems labeling them as unnecessary for deterrence and a threat to the “stable balance of terror” that he sought.³ Schelling believed that if the United States possessed the defensive capability to survive a Soviet attack, Soviet leadership may see the United States as more likely to initiate a pre-emptive nuclear strike. This fear, in turn, could motivate the Soviet Union to initiate a first strike in an effort to negate U.S. defenses, neutralize the U.S. offensive capability and gain the advantage in conflict.⁴ Instead, Schelling argued, “deterrence was gained through the Soviet leadership’s belief that there was a chance of U.S. nuclear escalation.”⁵ If neither side possessed a defensive capability, the only result of nuclear war could be mutual destruction. If mutual destruction was the inevitable result of nuclear war, then neither the U.S. nor the Soviet Union would be motivated to start a nuclear conflict.

While Schelling’s theories on deterrence weren’t accepted in whole, they were the most influential on U.S. policy makers. Secretary of Defense Robert McNamara, largely credited as being the most influential public figure in the way we think about nuclear weapons, implemented Schelling’s theories of assured destruction and limited response into U.S. policy.⁶ Taking a page

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from Kahn's theories, McNamara did, however, seek ways to limit damage from a potential Soviet nuclear attack—seeking shelter programs for the public as well as an anti-ballistic missile system. The defensive systems he sought were quickly written off, however, for two main reasons. The first was cost. It was estimated that “at each level of damage the defense had to spend three times as much as the offense.”⁷ The second reason, mirroring Schelling's theories, was that missile defense was seen to be destabilizing and that seeking an anti-ballistic missile system would only further stimulate the arms race.⁸

Missile defense never fully left the nuclear deterrent equation, however. In 1975, the United States built its first missile defense system, called Safeguard, near Grand Forks, North Dakota. Employing a small nuclear warhead as the kill vehicle, the Air Force declared Safeguard operational and congress promptly shut it down a short time later.⁹ In 1983, President Ronald Reagan once again kicked the missile defense debate into high gear when he announced his Strategic Defense Initiative (SDI). With SDI, Reagan sought to defend the United States against a massive nuclear attack from the Soviet Union, rendering their ballistic missiles “impotent and obsolete.” SDI was envisioned as a multi-layered defense, capable of intercepting a ballistic missile in all stages of flight, utilizing both land and space-based weapons.¹⁰

Ultimately, SDI was doomed for technological and political reasons. The advanced guidance systems, sensors, and reusable lasers required by SDI simply didn't exist and attempts to develop them proved extremely costly and largely ineffective. Additionally, much of the scientific community agreed that even if the technology were developed, it could never be 100 per cent effective and could easily be defeated by even rudimentary counter-measures. Politically, it was feared SDI would fuel an arms race with the Soviet Union, an opponent that was believed to have the resources and resolve to compete in that race.¹¹ SDI, it seemed,

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threatened Schelling's "stable balance of terror," and at the close of the decade U.S. nuclear deterrence policy still relied on the theory of assured destruction.

As the 1990's unfolded, so did a dramatically different security environment. The Soviet Union had dissolved, the Cold War had ended and with SDI all but dead, United States missile defense efforts shifted its focus almost solely on theater defense for much of the decade. A report issued in 1998, by a committee chaired by Donald Rumsfeld, redirected national attention to a missile defense system capable of protecting the United States. The report indicated that Iran and North Korea had the capability to build and deploy an ICBM force by 2003.¹² By late 2001, President George W. Bush had announced the United States' intentions to withdraw from the Anti-Ballistic Missile Treaty with the former Soviet Union. The following year, he directed the DOD to "begin fielding an initial BMDS (Ballistic Missile Defense System) capable of defending the U.S. homeland, deployed troops, friends, and allies against ballistic missiles of all ranges in all phases of flight."¹³ Since that time, the United States has operationally deployed land-based ballistic missile defense systems in Alaska and California, as well as sea-based systems located primarily in the PACOM AOR. These systems are capable of defending the continental United States, Alaska, Hawaii, and U.S. allies in the pacific, from ballistic missile attack.

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The Department of Defense defines deterrence as "The prevention from action by fear of the consequences. Deterrence is a state of mind brought about by the existence of a credible threat of unacceptable counteraction."¹⁴ The DOD further states that an adversary's deterrence calculus focuses on their perception of three primary elements: first, the benefits of a course of

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action; second, the costs of a course of action; and third, the consequences of restraint.¹⁵

Traditional nuclear deterrence theories have focused primarily on the cost and benefit portions of this calculus. Simply put, if the costs of an actor's actions are greater than the benefit they will receive from that action, then that actor should be deterred from conducting that action. So, assuming a rational actor, if the cost imposed on that actor for a nuclear attack against the United States, or its allies, is assured destruction (from U.S. retaliation), then that actor should be deterred from conducting such an attack.

Missile defense systems add another variable to a potential adversary's calculus. Inherent in the cost versus benefit equation is a calculation of probability of incurring that cost and probability of achieving that benefit. If a potential adversary calculates that the probability of incurring the cost of assured destruction is low, or an irrational actor decides that they do not care, then they are less likely to be deterred. Missile defense systems help rebalance that equation by lowering the probability of achieving any benefit from a ballistic missile attack through destruction of that missile.

In the long term, missile defense systems also create additional costs for an adversary. As noted in the discussion on SDI, many in the scientific community believed SDI could easily be negated. While advancements have been and continue to be made in increasing missile defense capabilities against such negation tactics, it would be foolhardy to assume missile defense systems could never be defeated. However, the costs to countries such as Iran or North Korea, in developing a negation capability or in amassing enough missiles to simply overwhelm defensive systems, would be great. As these and other would-be nuclear actors consider the benefits of nuclear armament, these costs will weigh heavy.

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Missile defense systems also help the United States maintain the deterrent value of its nuclear arsenal. If a rogue state were to successfully attack the United States with a nuclear armed ballistic missile, the U.S. would have little option but to respond in kind. To do otherwise would prove that the U.S. has little or no will to use its nuclear weapons, and impose assured destruction, thereby dramatically decreasing the deterrence value of those weapons. However, if such an attack were thwarted by a missile defense system, then regardless of whether the U.S. response was nuclear, conventional, or even non-military, the deterrent value of the nuclear arsenal would remain largely intact.

Conclusions/Recommendations

After decades of debate, it appears that the United States is well on its way to protecting its citizens and allies from at least a limited ballistic missile attack. Despite political calls for abolishment, and modifications to system deployment plans, the current presidential administration remains committed to establishing an effective ballistic missile defense capability. This is a commitment the United States must maintain to ensure its security in the 21st century.

Thomas Schelling's theory of assured destruction may have successfully guided the U.S. through the Cold War, but his theory was based on an adversary whose beliefs, values and ideologies were relatively well known and understood. Since the end of the Cold War, India, Pakistan and North Korea have all emerged as nuclear powers and Iran appears to be close on their heels. Looking into the long-term future, it would be difficult to predict who might be next to follow in their footsteps. Each new nuclear power brings with them a different set of beliefs, values and ideologies that may affect their cost/benefit analysis in ways that differ from the

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former Soviet Union. Missile defense provides a hedge against this, ensuring that the probability of achieving any benefit from a nuclear attack against the United States remains low.

If the theory of assured destruction still holds any merit today, it is as it pertains to Russia and China. With the development of missile defense comes the risk of throwing off the balance of deterrence with these two countries and the potential to incite an arms race. The United States should continue to be transparent in its plans for missile defense and pursue aggressive diplomacy to ensure that arms race does not occur.

Since the end of the Cold War, the world's security environment has proven to be anything but stable and there is little reason to believe that will change in the near future. The proliferation of nuclear weapons calls for a renewed emphasis on nuclear deterrence. Missile defense strengthens that deterrence and helps ensure the United States' nuclear arsenal never needs to be used again.

¹ Keith B. Payne, *The Great American Gamble* (Fairfax, VA: National Institute Press, 2008), 30.

² Ibid, 35.

³ Ibid, 41.

⁴ Ibid, 41.

⁵ Ibid, 40.

⁶ Lawrence Freedman, *The Evolution of Nuclear Strategy* (New York, NY: Palgrave Macmillan, 2003), 216.

⁷ Ibid, 238.

⁸ Ibid, 239.

⁹ Maj Richard B. Van Hook, "The National Missile Defense Debate in the Post 9-11 Context" (research report, Maxwell AFB, AL: Air Command and Staff College, 2002), 5.

¹⁰ Ibid, 7-8.

¹¹ Ibid, 13-14.

¹² Ibid, 18.

¹³ Maj Lorinda A. Frederick, "Deterrence and Space-Based Missile Defense" (master's thesis, Maxwell AFB, AL: School of Advanced Air and Space Studies, 2008)30, 14.

¹⁴ Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms*, 12 April 2001 (As Amended Through 31 October 2009, 159.

¹⁵ Department of Defense, *Deterrence Operations Joint Operating Concept* (Washington, DC: Office of the Secretary of Defense, December 2006) 5.